



Improving the Quality of Health Program Data in Madagascar

WHO ARE WE?

The PMI Measure Malaria (PMM) project is funded by the U.S. Agency for International Development's (USAID) President's Malaria Initiative (PMI). Its main objective is to support the strengthening of the routine health information system (RHIS) and malaria surveillance, monitoring, and evaluation (SME) in the 12 USAID-supported regions of Madagascar.

Building on the lessons learned and successes of USAID's MEASURE Evaluation project in scaling up web-based health information models and approaches, the PMM project seeks to improve access to health information by strengthening the use of District Health Information Software, version 2 (DHIS2) through the integration of hospital, community, and private sector data, and the implementation of mobile and web-based dashboard and scorecard applications (apps) to enable health managers and service providers to make evidence-based decisions.

Building Supervisors' Capacity in Data Quality Assessment and Analysis Techniques

As a follow-on to the implementation of the data quality assurance plan developed by MEASURE Evaluation, the PMM project conducted training and supervision to assist data and program managers at all levels of the health system to assess data quality. These activities included the:

- Development of dashboards in DHIS2 to visualize the completeness and timeliness of reports and other performance indicators;
- Updating of validation rules to identify inconsistencies in reported data;
- Training staff on the use of the Routine Data Quality Assessment (RDQA) and Data Quality Review (DQR)/DHIS2 tools in Centres de Sante de Base (CSBs) and hospitals; and
- Coaching of stakeholders during periodic DHIS2 DQR meetings

PMM collaborates with the Directorate of Studies, Planning, and Health Information Systems (DEPSI) to organize training and coaching sessions for national health programs, including malaria. PMM also trains partners and private sector stakeholders on DQR, evaluation, and analysis.

To ensure the sustainability of activities, data quality reviews have been integrated into the quarterly district meetings and the semi-annual regional reviews. PMM collaborated with DEPSI, the National Malaria Control Program (PNLP), the Directorate of the Expanded Program on Immunization (DPEV), and the Directorate of Family Health (DSFA) by contributing to these meetings and coaching supervisors on data analysis and the development of action plans that will be finalized during upcoming review meetings.

Number of Supervisors Trained in Data Review, Analysis, and Quality Assessment:

100% of central-level data managers on use of DQR/DHIS2 apps

100% of regional data managers on use of community and hospital DQR/DHIS2 apps

100% of district data managers on use of community and hospital DQR/DHIS2 apps

100% of Malaria Program supervisors

33% of supervisors of other health programs

Training on Dashboard Development, the Use of DHIS2/DQR, and Validation Rules for Data Quality Review

PMM trained and supervised health system supervisors from the DSFA (25), the PNLP (9), the DPEV (33), DEPSI (23), Directorate of Basic Health Care (DSSB) (15), the DHRD (2), and 100 percent of the regions and health districts. PMM also trained USAID's technical partners, including Accessible Continuum of Care and Essential Services (ACCESS) (17), Improving Market Partnership and Access to Commodities Together (IMPACT) (5), and USAID's other partners on the development of dashboards using DHIS2 data to track the quality of their program data. The use of these tools has allowed for:

- Private health facilities (PHFs) to improve the accuracy of maternal and child health (MCH)/family planning (FP) data to 79 percent in the regions visited by 2022;
- A 65 percent completion rate of the recommendations of the quarterly data quality review in March 2022;
- The PNLP to improve malaria data quality and accuracy by 44 percent in 2022;
- The DPEV to improve data accuracy by 70 percent by 2022;
- The DEPSI to investigate the decrease of completeness and timeliness in 2022 as compared to 2021;
- The health districts and regions to facilitate data quality review during quarterly meetings;
- ACCESS and IMPACT to monitor data quality in their intervention areas; and
- All trained supervisors to develop and use the dashboard to monitor indicator trends and data quality improvement.

Data quality reviews with the use of electronic tools by all these stakeholders allowed for the development and monitoring of action plans to improve health data quality. By using insights of data quality levels on completeness, timeliness, and data inconsistencies, health service supervisors were able to identify problems in real time and routinely seek solutions.

Training of Supervisors on Data Quality Assessment at the CSB Level

Data inconsistencies identified during data quality reviews conducted at the central level were investigated at the peripheral level using the RDQA tool. With support from PMM, trained supervisors from the various health programs were supervised by the central and regional levels to conduct data quality assessments at the CSB level. Additionally, PMM collaborated with the central level to supervise and coach 25 regional management teams (EMAR) and 40 district management teams (EMAD) on conducting data quality assessments for malaria, MCH/FP, immunization, and COVID-19 programs. The results of these assessments enabled the CSBs to develop solutions for data quality issues due to limited data reporting during the COVID-19 mobility restrictions. This led to:

- A report completeness rate of 95.8% in 2020 and 90.7% in 2022;
- A report timeliness rate of 83.5% in 2020 and 67.4% in 2022; and
- An increase in data accuracy from 37.5% in 2020 to 50.2% in 2022.

Data quality assessment at the health facilities enabled the malaria, family health, and immunization programs to use system data to make decisions to improve the quality of services and to reduce stock-outs of malaria, MCH/FP, and immunization commodities.

The Ministry of Health has validated and adopted these data quality tools as the standards that all stakeholders have adopted and are implementing.

A central official said: “The harmonized tools will provide a holistic view of the situation on data quality at program level.”

A regional supervisor said: “The updated tools are simpler and easier to use to conduct data quality reviews.”

According to a partner of the Ministry of Health, “the use of the Data Quality Tool (DQT) integrated into DHIS2 allows us to prioritize the districts that need supervision.”

Regional and District Management Team Perceptions of Data Quality Tools

When asked about their role in the use of data quality assessment tools, a member of the district management team replied: “Through the transfer of expertise on the use of data quality tools, we are able to conduct data quality reviews and use the results for decision making. The use of these tools has made it possible to identify data quality problems, develop action plans, and provide feedback.”

Partners' Perceptions on Data Quality Assessment Tools

A Ministry of Health partner noted: “The use of the Data Quality Tool (DQT) integrated into DHIS2 makes it possible to prioritize the districts and health trainings to be supervised.”



From left: Data quality review in the Vatovavy district; from right: Training on data quality review and assessment in the Anosy. Photos courtesy of PMI Measure Malaria.

Results Observed After the Introduction of Data Quality Assessment Tools

Basic health centers recorded the following results after the start of action plan implementation and data quality review:

67.4%
of health centers
reported on time

90.7%
of health centers
submitted
complete reports

50.2%
of health centers
report accurate
data

The health districts organize quarterly data reviews with the participation of CSB leaders. In addition to the dashboards they developed, they also use the validation rules and the DQR/DHIS2 tool to assess data quality. During the meeting, participants analyze and discuss the completeness and timeliness of the reports, data inconsistencies, and progress made in the implementation of the action plan. They also propose solutions for strengthening or changing data quality monitoring strategies.



Use of Data Quality Assessment Tools in All Regions of the Country

Given the good results from the implementation of data quality assessment tools in USAID-supported areas, the Ministry of Health requested support from the Global Fund and the WHO-implemented Nutritional Outcomes Improvement Project (NIP) to conduct data quality assessments in regions and districts not supported by USAID. With funding from the Global Fund and the Projet d'Amélioration des Résultats Nutritionnels (PARN), PMM supported DEPSI to train data managers and program officers on the use of these tools and to conduct data quality assessments in areas not supported by USAID. Thus, with these data quality assessment tools, the Ministry of Health was able to conduct assessments in the country's districts and basic health centers.



Training on the use of mobile apps in the Toliara II district. Photo courtesy of PMI Measure Malaria.

PMI Measure Malaria

University of North Carolina at Chapel Hill • 123 West Franklin Street, Suite 330

Chapel Hill, NC 27516 USA

Phone: 919-445-9350 • Fax: 919-445-9353

measuremalaria@unc.edu • www.measuremalaria.org

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